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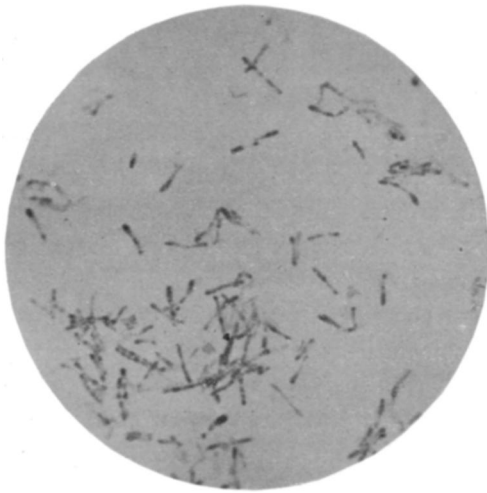
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## A NEW SIMPLE METHOD FOR STAINING THE POLAR BODIES OF DIPHTHERIA BACILLI.\*

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BLUMENTHAL and Lipskerow, in their study of the comparative values of all the different methods devised for staining the polar bodies of diphtheria bacilli, came to the conclusion that the Ljublinski-



pyoktanin method gives the best results.<sup>†</sup>

But they found that even with this method difficulty is at times experienced in that it fails to give distinct pictures of the bacillus proper, although the polar bodies may be stained very well. This deficiency in the staining of the entire organism constitutes an objection to the use of this method be-

cause it renders the presence of tingible cocci a possible source of error. My own experiences with the various polar-body stains compel me to concur with the view of these authors.

Often a well-ripened solution of Loeffler's alkaline methylene blue will define fairly well the morphological characteristics of the diphtheria bacillus. This definition may be greatly enhanced by the subsequent use of Gram's iodine solution as a differentiating agent. Better results are to be obtained, however, by the use of a solution of pyronin, followed by the iodine solution.

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<sup>†</sup> *Centralbl. f. Bakt.*, 1905, Orig. 38, p. 359.

The solutions necessary for the purpose are:

1. Loeffler's alkaline methylene blue or a 1 per cent aqueous solution of pyronin (preferably the latter).
2. Gram's iodine solution.

The steps in the method are as follows:

- I. Pyronin solution for 20 seconds, or Loeffler's solution for  $\frac{1}{2}$  minute.
  - II. Rinse in tap water.
  - III. Gram's iodine solution for 10 seconds.
  - IV. Rinse in tap water, dry, and examine.
- Counterstains are not required.

With either of these methods the polar bodies and the body of the bacillus appear very sharply defined and their relation to each other is very definitely shown. With the pyronin solution the polar bodies appear as large, dark, brick-red, round, or oval bodies, whereas the bacillus is usually slender and of a light red color. In some instances the polar bodies contain an unstained refractile central spot.

With the Loeffler solution the polar bodies appear greenish-black and the bacillus of a greenish color. In both instances the entire organism is very distinct and the contrast between the polar bodies and the bacillus proper is striking; but the beauty of the pictures which result with the use of pyronin should make it the method of choice.

The accompanying photomicrograph (1,000 diameter magnification) shows quite well the appearance of diphtheria bacilla stained by the pyronin method. The original slides show the polar bodies even more distinctly.